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EXAMINER

MAHMOUDI, HASSAN

ART UNIT	PAPER NUMBER
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2175

DATE MAILED: 11/06/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/739,790

Applicant(s)

SUGINOSHITA ET AL.

Examiner

Tony Mahmoudi

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-11 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 3.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

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## DETAILED ACTION

### *Claim Rejections - 35 USC § 103*

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1 and 4-6, and 8-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kodama (U.S. Patent No. 6,374,262) in view of Di-Crescenzo et al (U. S. Patent No. 6,438,554.)

As to claim 1, Kodama teaches a database system (see Abstract, and see column 3, lines 16-17) comprising:

- a master database to be updated (see column 5, lines 15-22);
- a replica for storing a duplicate of the master database (see column 5, lines 35-40);
- a preferential order information memory unit for holding preferential order that reflects update data of the master database on the replica for data type (see column 12, lines 4-12.)

Kodama does not teach:

- an allocation unit for reading the update data and selectively extracting the update data according to the preferential order; and
- a management unit for updating the replica with the a extracted update data.

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Di-Crescenzo et al teaches a system for private information retrieval from a storage device (see Abstract), in which he teaches an allocation unit for reading the update data and selectively extracting the update data according to the preferential order (see column 3, line 43 through column 4, line 13); and a management unit for updating the replica with the a extracted update data (see column 6, line 65, through column 7, line 19.)

Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to have modified Kodama to include an allocation unit for reading the update data and selectively extracting the update data according to the preferential order; and a management unit for updating the replica with the a extracted update data.

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to have modified Kodama by the teaching of Di-Crescenzo et al, because an allocation unit for reading the update data and selectively extracting the update data according to the preferential order; and a management unit for updating the replica with the a extracted update data, would enable the system to retrieve portions of the data (based on type, and/or other user definable properties) from one database and copy the selected data into another database as opposed to retrieving and copying the entire data from one database to another. The selective retrieval and updating of data (partial replication) is less time consuming and more efficient than the full backup/replication process.

As to claim 4, Kodama teaches a database system (see Abstract, and see column 3, lines 16-17) comprising:

a master database to be updated (see column 5, lines 15-22);

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a replica for storing a duplicate of the master database (see column 5, lines 35-40);

a first control unit, provided in the master database side, for extracting update data according to stored preferential order of data types to be updated and for transferring it to a communication means (see column 12, lines 4-12); and

a second control unit, provided in the replica side, for receiving the update data transferred from the communication means, for extracting the update data according to stored preferential order of the further subdivided data type to be updated, and for updating the replica based on the extracted update data (see column 7, lines 53-65.)

Kodama does not teach selectively extracting update data.

Di-Crescenzo et al teaches a system for private information retrieval from a storage device (see Abstract), in which he teaches selectively extracting update data (see column 3, line 43 through column 4, line 13.)

Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to have modified Kodama to include selectively extracting update data.

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to have modified Kodama by the teaching of Di-Crescenzo et al, because selectively extracting update data, would enable the system to retrieve portions of the data (based on type, and/or other user definable properties) from one database and copy the selected data into another database as opposed to retrieving and copying the entire data from one database to another. The selective retrieval and updating of data (partial replication) is less time consuming and more efficient than the full backup/replication process.

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As to claim 5, Kodama teaches a database system (see Abstract, and see column 3, lines 16-17) comprising:

- a master database to be updated (see column 5, lines 15-22);
- a replica for storing a duplicate of the master database (see column 5, lines 35-40);
- a first control unit, provided in the master database, for transferring update data to a communication means (see column 2, line 41 through column 3, line 5); and
- a second control unit, provided in the replica side, for receiving the update data transferred from the communication means, for extracting the update data according to stored preferential order of data types to be updated, and for updating the replica based on the extracted update data (see column 7, lines 53-65.)

Kodama does not teach selectively extracting update data.

Di-Crescenzo et al teaches a system for private information retrieval from a storage device (see Abstract), in which he teaches selectively extracting update data (see column 3, line 43 through column 4, line 13.)

Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to have modified Kodama to include selectively extracting update data.

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to have modified Kodama by the teaching of Di-Crescenzo et al, because selectively extracting update data, would enable the system to retrieve portions of the data (based on type, and/or other user definable properties) from one database and copy the selected data into another database as opposed to retrieving and copying the entire data from one database to

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another. The selective retrieval and updating of data (partial replication) is less time consuming and more efficient than the full backup/replication process.

As to claim 6, Kodama teaches a database system (see Abstract, and see column 3, lines 16-17) comprising:

- a master database to be updated (see column 5, lines 15-22);

- a plurality of replicas for storing a duplicate of the master database (see figure 2, and see column 4, lines 53-58);

- a first control unit, provided in the master database side, for selectively transferring update data (see column 2, line 41 through column 3, line 5); and

- a second control unit, provided in each of the replica side, for receiving the update data transferred, for selectively extracting the update data according to stored preferential order of data types to be updated, and for updating the replica based on the extracted update data (see column 7, lines 53-65.)

Kodama does not teach selectively extracting update data.

Di-Crescenzo et al teaches a system for private information retrieval from a storage device (see Abstract), in which he teaches selectively extracting update data (see column 3, line 43 through column 4, line 13.)

Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to have modified Kodama to include selectively extracting update data.

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to have modified Kodama by the teaching of Di-Crescenzo et al, because

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selectively extracting update data, would enable the system to retrieve portions of the data (based on type, and/or other user definable properties) from one database and copy the selected data into another database as opposed to retrieving and copying the entire data from one database to another. The selective retrieval and updating of data (partial replication) is less time consuming and more efficient than the full backup/replication process.

As to claim 8, Kodama teaches a method (see Abstract) for forming a replica of a database in a system having a master database to be updated and a replica thereof (see column 4, lines 53-58), the method comprising steps of:

holding preferential order of data types that are to be applied when update data of the master database is reflected on the replica (see column 12, lines 4-12);

reading the update data (see column 2, line 41 through column 3, line 5);

updating the replica with the extracted update data (see column 10, lines 18-29.)

Kodama does not teach extracting the update data selectively according to the preferential order.

Di-Crescenzo et al teaches a system for private information retrieval from a storage device (see Abstract), in which he teaches extracting the update data selectively according to the preferential order (see column 3, line 43 through column 4, line 13.)

Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to have modified Kodama to include extracting the update data selectively according to the preferential order.



It would have been obvious to a person having ordinary skill in the art at the time the invention was made to have modified Kodama by the teaching of Di-Crescenzo et al, because extracting the update data selectively according to the preferential order, would enable the system to retrieve portions of the data (based on type, and/or other user definable properties) from one database and copy the selected data into another database as opposed to retrieving and copying the entire data from one database to another. The selective retrieval and updating of data (partial replication) is less time consuming and more efficient than the full backup/replication process.

As to claim 9, Kodama teaches a method (see Abstract) for forming a replica of a database in a system having a master database to be updated and a replica thereof (see column 4, lines 53-58), the method comprising steps of:

transferring the extracted update data to a communication means (see column 2, line 41 through column 3, line 5);

receiving the update data transferred from the communication means on the replica side (see column 7, lines 29-52); and

updating the replica thereby (see column 10, lines 18-29.)

Kodama does not teach:

extracting update data according to stored preferential order of data type to be updated on the master database side; and

extracting the update data selectively according to stored preferential order of further subdivided data types to be updated.

Di-Crescenzo et al teaches a system for private information retrieval from a storage device (see Abstract), in which he teaches extracting update data according to stored preferential order of data type to be updated on the master database side; and extracting the update data selectively according to stored preferential order of further subdivided data types to be updated (see column 3, line 43 through column 4, line 13.)

Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to have modified Kodama to include extracting update data according to stored preferential order of data type to be updated on the master database side; and extracting the update data selectively according to stored preferential order of further subdivided data types to be updated .

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to have modified Kodama by the teaching of Di-Crescenzo et al, because extracting update data according to stored preferential order of data type to be updated on the master database side; and extracting the update data selectively according to stored preferential order of further subdivided data types to be updated, would enable the system to retrieve portions of the data (based on type, and/or other user definable properties) from one database and copy the selected data into another database as opposed to retrieving and copying the entire data from one database to another. The selective retrieval and updating of data (partial replication) is less time consuming and more efficient than the full backup/replication process.

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As to claim 10, Kodama teaches a method (see Abstract) for forming a replica of a database in a system having a master database to be updated and a replica thereof (see column 4, lines 53-58), the method comprising steps of:

storing data type of update data of the master database that is to be reflected preferentially on the replica (see column 7, lines 53-65);

reading the update data (see column 2, line 41 through column 3, line 5);

updating the replica with the extracted update data (see column 10, lines 18-29.)

Kodama does not teach extracting the update data corresponding to the data type selectively.

Di-Crescenzo et al teaches a system for private information retrieval from a storage device (see Abstract), in which he teaches extracting the update data corresponding to the data type selectively (see column 3, line 43 through column 4, line 13.)

Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to have modified Kodama to include extracting the update data corresponding to the data type selectively.

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to have modified Kodama by the teaching of Di-Crescenzo et al, because extracting the update data corresponding to the data type selectively, would enable the system to retrieve portions of the data (based on type, and/or other user definable properties) from one database and copy the selected data into another database as opposed to retrieving and copying the entire data from one database to another. The selective retrieval and updating of data (partial replication) is less time consuming and more efficient than the full backup/replication process.

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As to claim 11, Kodama teaches a computer-readable recording medium (see column 15, line 13) having a recorded program for forming a replica of a master database to be updated (see column 4, lines 53-58), the program comprising steps of:

holding preferential order of data types that is to be applied when update data of the master database is reflected on the replica (see column 12, lines 4-12);

reading the update data (see column 2, line 41 through column 3, line 5);

updating the replica with the extracted update data (see column 10, lines 18-29.)

Kodama does not teach extracting the update data selectively according to the preferential order.

Di-Crescenzo et al teaches a system for private information retrieval from a storage device (see Abstract), in which he teaches extracting the update data selectively according to the preferential order (see column 3, line 43 through column 4, line 13.)

Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to have modified Kodama to include extracting the update data selectively according to the preferential order.

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to have modified Kodama by the teaching of Di-Crescenzo et al, because extracting the update data selectively according to the preferential order, would enable the system to retrieve portions of the data (based on type, and/or other user definable properties) from one database and copy the selected data into another database as opposed to retrieving and copying the entire data from one database to another. The selective retrieval and updating of

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data (partial replication) is less time consuming and more efficient than the full backup/replication process.

3. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kodama (U.S. Patent No. 6,374,262) in view of Kawagoe (U.S. Patent No. 6,438,563), and further in view of Di-Crescenzo et al (U. S. Patent No. 6,438,554.)

As to claim 2, Kodama teaches a database system (see Abstract, and see column 3, lines 16-17) comprising:

a master database to be updated (see column 5, lines 15-22);

a replica for storing a duplicate of the master database (see column 5, lines 35-40.)

Kodama does not teach:

a preferential order acquiring unit for receiving preferential order to be applied when update data of the master database is reflected on the replica and for acquiring the preferential order.

Kawagoe teaches a method for synchronizing databases (see Abstract), in which he teaches a preferential order acquiring unit for receiving preferential order to be applied when update data of the master database is reflected on the replica and for acquiring the preferential order (see column 7, lines 28-45.)

Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to have modified Kodama to include a preferential order acquiring unit for receiving preferential order to be applied when update data of the master database is reflected on the replica and for acquiring the preferential order.

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It would have been obvious to a person having ordinary skill in the art at the time the invention was made to have modified Kodama by the teaching of Kawagoe because, a preferential order acquiring unit for receiving preferential order to be applied when update data of the master database is reflected on the replica and for acquiring the preferential order, would enable the replication system to receive instructions and preferences, defining the parameters and criteria of, only the portions of the database to be replicated, as determined in the submitted preferences.

Kodama as modified still does not teach:

an allocation unit for reading the update data and selectively extracting the update data according to the preferential order; and

a management unit for updating the replica with the extracted update data.

Di-Crescenzo et al teaches a system for private information retrieval from a storage device (see Abstract), in which he teaches an allocation unit for reading the update data and selectively extracting the update data according to the preferential order (see column 3, line 43 through column 4, line 13); and a management unit for updating the replica with the a extracted update data (see column 6, line 65, through column 7, line 19.)

Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to have modified Kodama as modified to include an allocation unit for reading the update data and selectively extracting the update data according to the preferential order; and a management unit for updating the replica with the a extracted update data.

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to have modified Kodama as modified, by the teaching of Di-Crescenzo et

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al, because an allocation unit for reading the update data and selectively extracting the update data according to the preferential order; and a management unit for updating the replica with the a extracted update data, would enable the system to retrieve portions of the data (based on type, and/or other user definable properties) from one database and copy the selected data into another database as opposed to retrieving and copying the entire data from one database to another. The selective retrieval and updating of data (partial replication) is less time consuming and more efficient than the full backup/replication process.

4. Claims 3 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kodama (U.S. Patent No. 6,374,262) in view of Kawagoe (U.S. Patent No. 6,438,563.)

As to claim 3, Kodama teaches a database system (see Abstract, and see column 3, lines 16-17) comprising:

- a master database to be updated (see column 5, lines 15-22);
- a replica for storing a duplicate of the master database (see column 5, lines 35-40);
- an updating unit for receiving update data of the master database and updating the replica (see column 3, line 59 through column 4, line 6) with preference on a specified data type corresponding to the use history (see column 10, lines 19-29, where “specified data type” is read on “negotiation-rated information table exclusive of synchronization information”).)

Kodama does not teach: a history acquiring unit for recording use history of the replica.

Kawagoe teaches a method for synchronizing databases (see Abstract), in which he teaches a history acquiring unit for recording use history of the replica (see column 3, line 59 through column 4, line 24.)

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Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to have modified Kodama to include a history acquiring unit for recording use history of the replica.

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to have modified Kodama by the teaching of Kawagoe because, a history acquiring unit for recording use history of the replica, would enable the replication system to log all replication information and provide the users with usage log, replicated data type log, and event log, corresponding to the activities of the replicated database.

As to claim 7, Kodama teaches a database system (see Abstract, and see column 3, lines 16-17) comprising:

- a master database for storing a plurality of types of data (see figure 2, and see column 4, lines 53-58);

- a master database management unit for updating the master database in order of occurrence of an update request according to the data update request to the master database (see column 7, lines 53-65);

- an update log file for storing update log of the master database in the order of updating of the master database (see column 12, lines 60-67);

- a data allocation unit for extracting update data in order according to preferential order determined to the plurality of data types of data from update data in the update log read by means of the update log reading unit (see column 5, lines 15-34.)

- a replica for storing the duplicate of data stored in the master database (figure 2); and



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a replica database management unit for writing the update data extracted by means of the data allocation unit in the replica in the order of extraction (see column 5, lines 35-40.)

Kodama does not teach: an update log reading unit for reading out the update log from the log file.

Kawagoe teaches a method for synchronizing databases (see Abstract), in which he teaches a an update log reading unit for reading out the update log from the log file (see column 10, lines 20-31, and see column 20, lines 19-23.)

Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to have modified Kodama to include an update log reading unit for reading out the update log from the log file.

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to have modified Kodama by the teaching of Kawagoe because, an update log reading unit for reading out the update log from the log file, would enable the replication system to access all replication information and provide the users with usage log, replicated data type log, and event log, corresponding to the activities of the replicated database.

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*Conclusion*

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

The following patents are cited to further show the state of art with respect to database selective replication and database synchronization in general:

U.S. Patent No. 6,122,630 to Strickler et al.

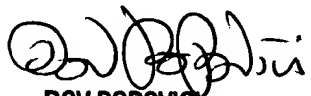
U.S. Patent No. 5,995,980 to Olson et al.

6. Any inquiries concerning this communication or earlier communications from the examiner should be directed to Tony Mahmoudi whose telephone number is (703) 305-4887. The examiner can normally be reached on Mondays-Fridays from 08:00 am to 04:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dov Popovici, can be reached at (703) 305-3830.

tm

October 24, 2002

  
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